



US Army Corps of Engineers



Screening Level Ecological Risk  
Assessment on MMRP Sites:  
Optimal Use of Army BTAG  
Approaches for Ecological Risk  
Assessment  
USACE EM CX  
E2S2 Symposium  
Denver, CO  
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## Uses Of Risk Assessment In CERCLA

- PA/SI: Site screening, yes/no for further study; otherwise any detect might be used
- RI: Provides degree of risk under —baseline” conditions; results with ARARs and risk management determine need for FS
- FS: Used to calculate health-based cleanup goals and evaluate remedial alternatives



## General Elements of Screening Assessment in SI Phase

- Technical Project Planning
  - Site setting and land use
  - Conceptual Site Model
  - Agree to screening levels (understand basis)
- Chemical data
- Compare to screening levels
- Risk characterization



## Screening Level Assessments

EM CX advocates human AND ecological screening in Site Inspection

- Level of effort for screening ecological assessment is practical at this project phase
- Addresses the problem early-on and reduces level of effort in RI where mindset may tend toward larger data collection effort
- Consultation with regulators in planning and implementation is key to success



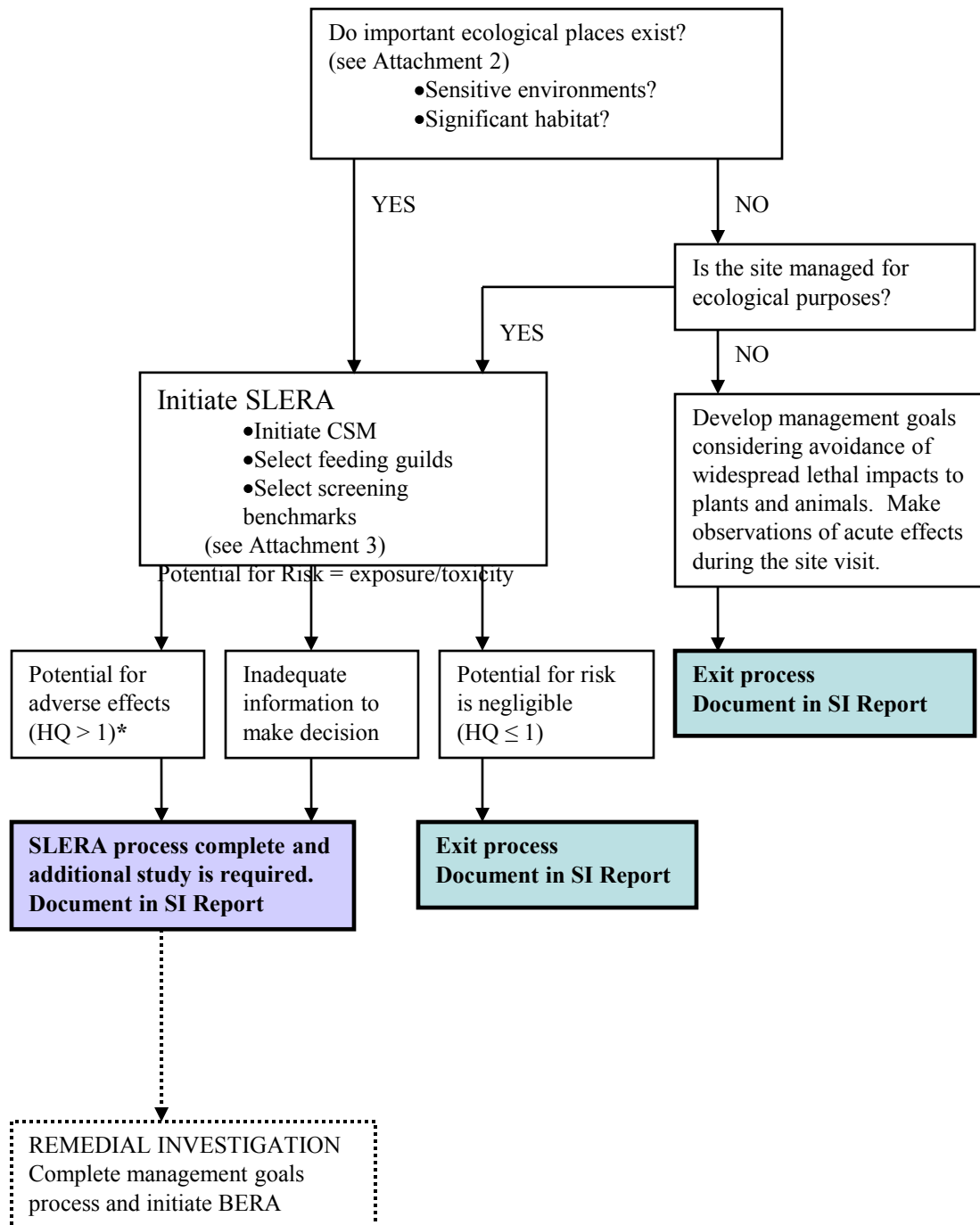
## FUDS MMRP SI Program Success

FUDS Program: 425 MMRP SIs Final; 325 ongoing; 120 planned FY10, 80 planned FY11

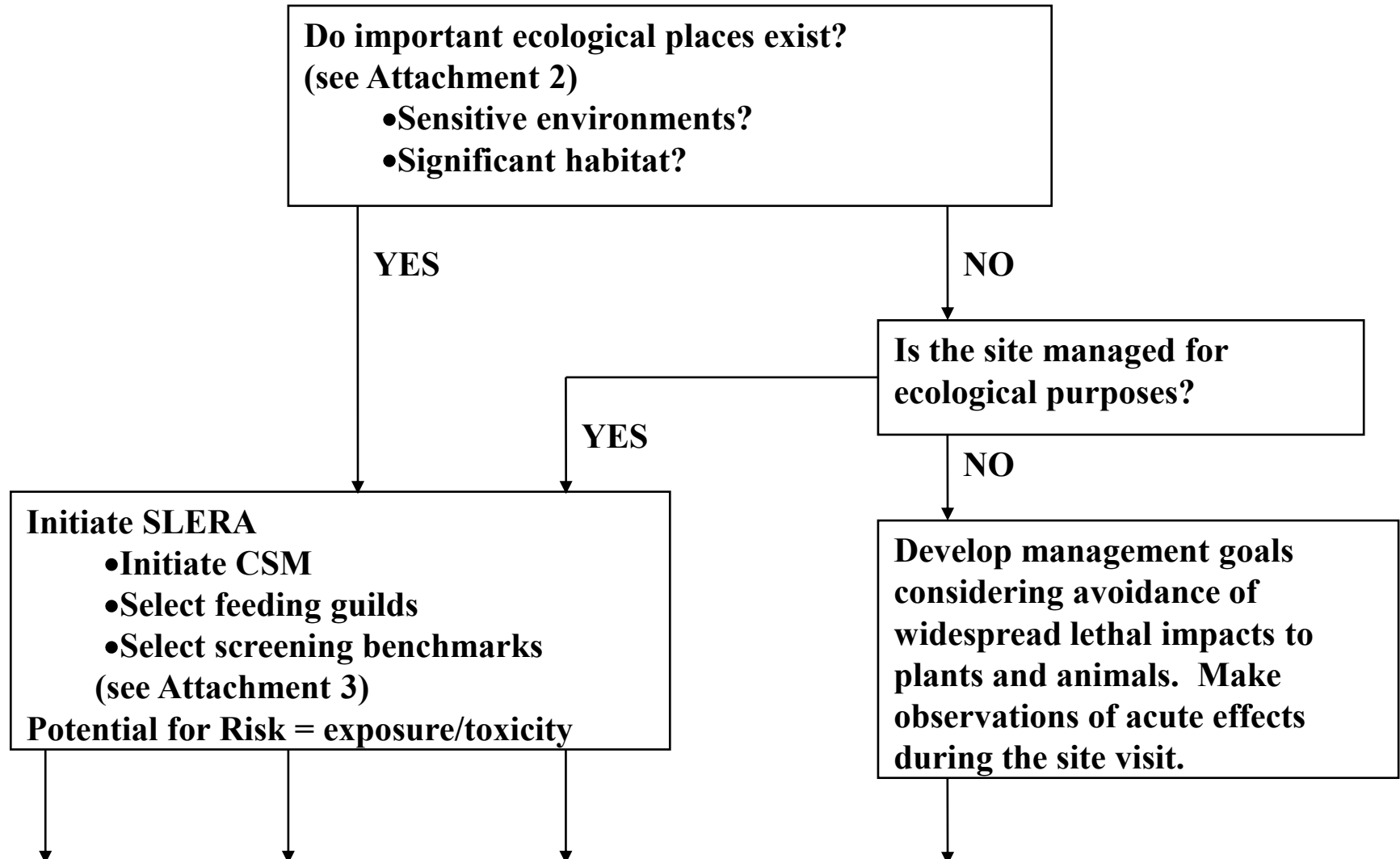
85 to 90% of FUDS MMRP screening level ecological assessment shows ecological concerns negligible; further study in RI baseline assessment not required

### Two Avenues

- Site not important ecologically and do not require further screening
- Site important ecologically and no/low levels MC



# SCREENING-LEVEL ECOLOGICAL RISK ASSESSMENTS for FUDS MMRP SITE INSPECTIONS (Aug. 2006)







## Factors to consider: Valuable Ecological Resources

Local population or community of species

- Under regulatory protection
- Provides or affects important resources
  - habitat for fisheries, game species
- Important to stakeholders
  - intrinsic or aesthetic value



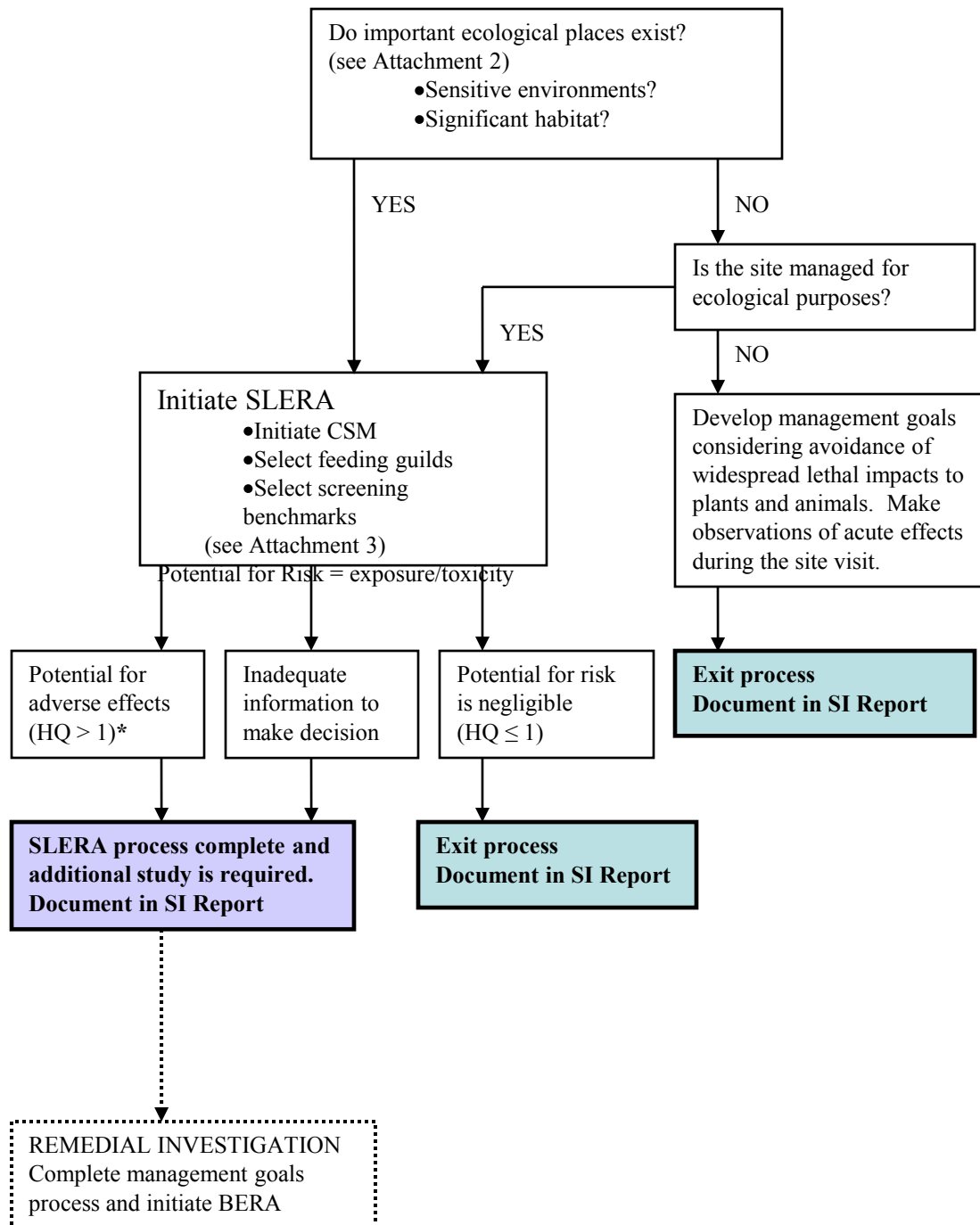
## Example Important Ecological Places

- Locally important ecological place identified by the Integrated Natural Resource Management Plan, BRAC Cleanup Plan or Redevelopment Plan, or other official land management plans
- Critical habitat for Federal designated endangered or threatened species
- Wetlands
- Marine Sanctuary
- National Park
- National Seashore Recreational Area
- National or State Wildlife Refuge

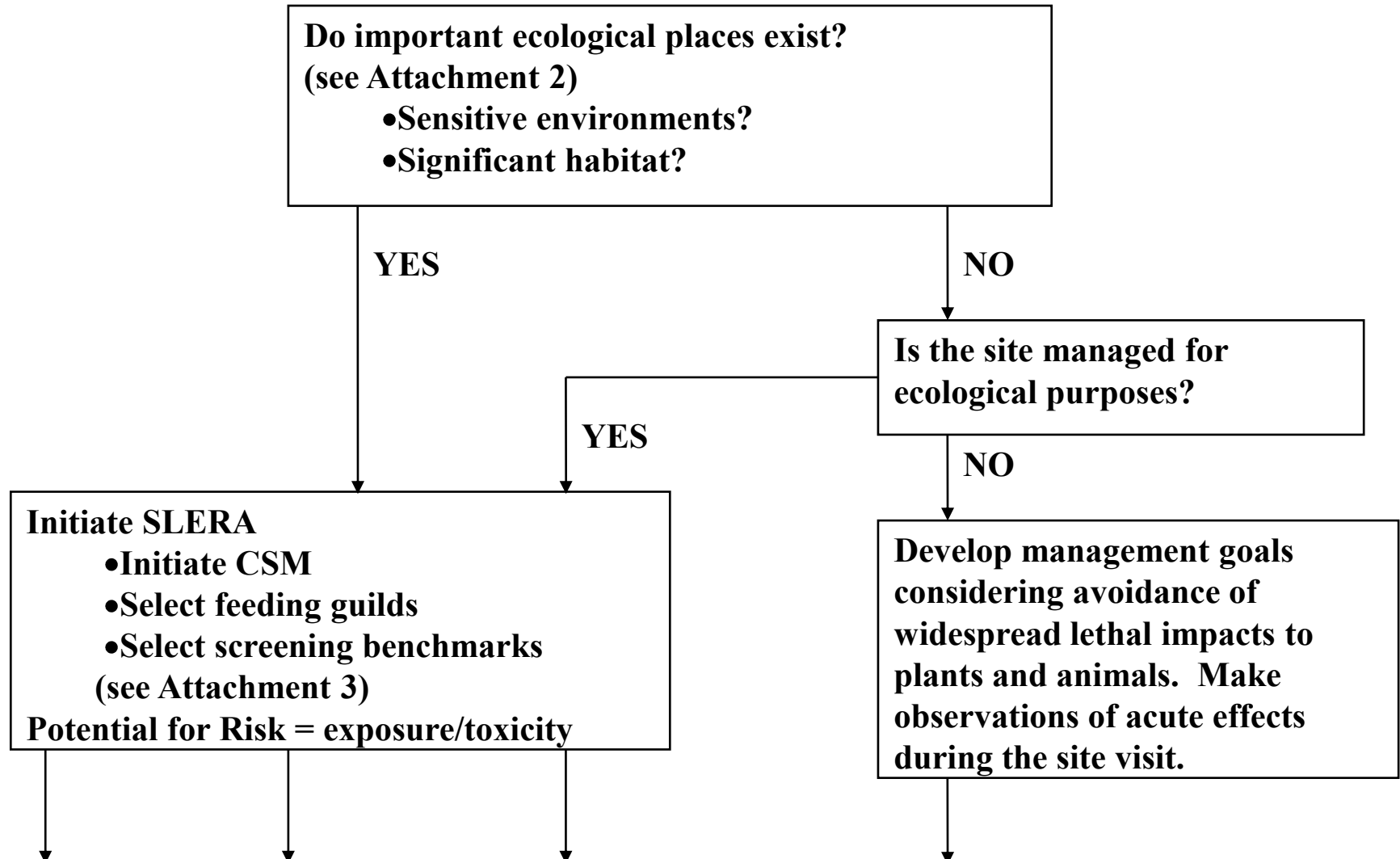


## What May Require Protection

- Sensitive environments
- Critical habitat
- Areas managed for ecological purposes
  - Consult with property owner
- None? Consider the following goal:
  - Prevent unreasonable effects to biota such as widespread lethal impacts”



# SCREENING-LEVEL ECOLOGICAL RISK ASSESSMENTS for FUDS MMRP SITE INSPECTIONS (Aug. 2006)





## Site is of Ecological Importance?

- Yes- Use place to frame management goals for the SLERA
- Wildlife Refuge used and valued for wildlife viewing, recreational opportunities
- Management goal (example): Maintain diversity of native biotic communities

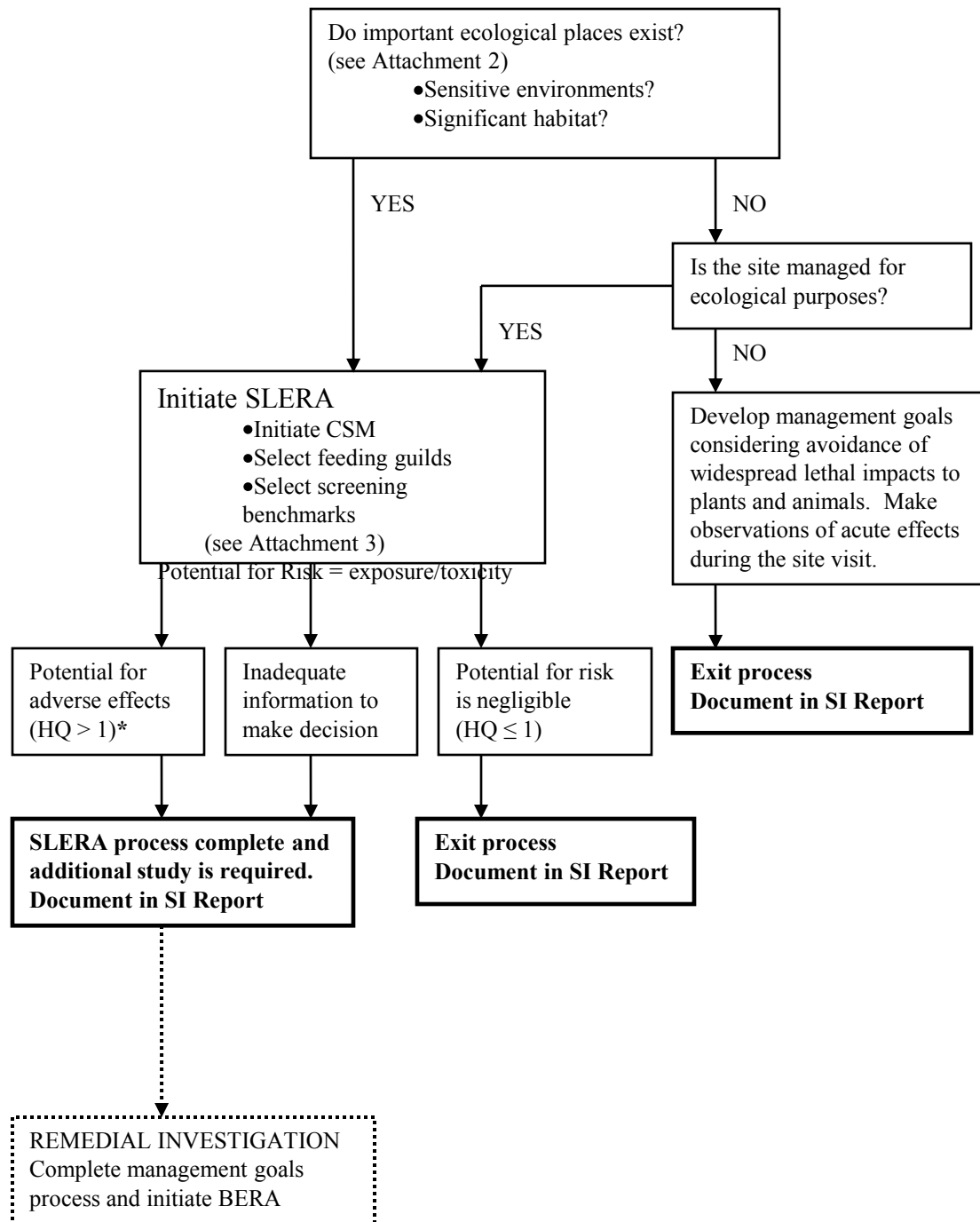


## Site is of Ecological Importance

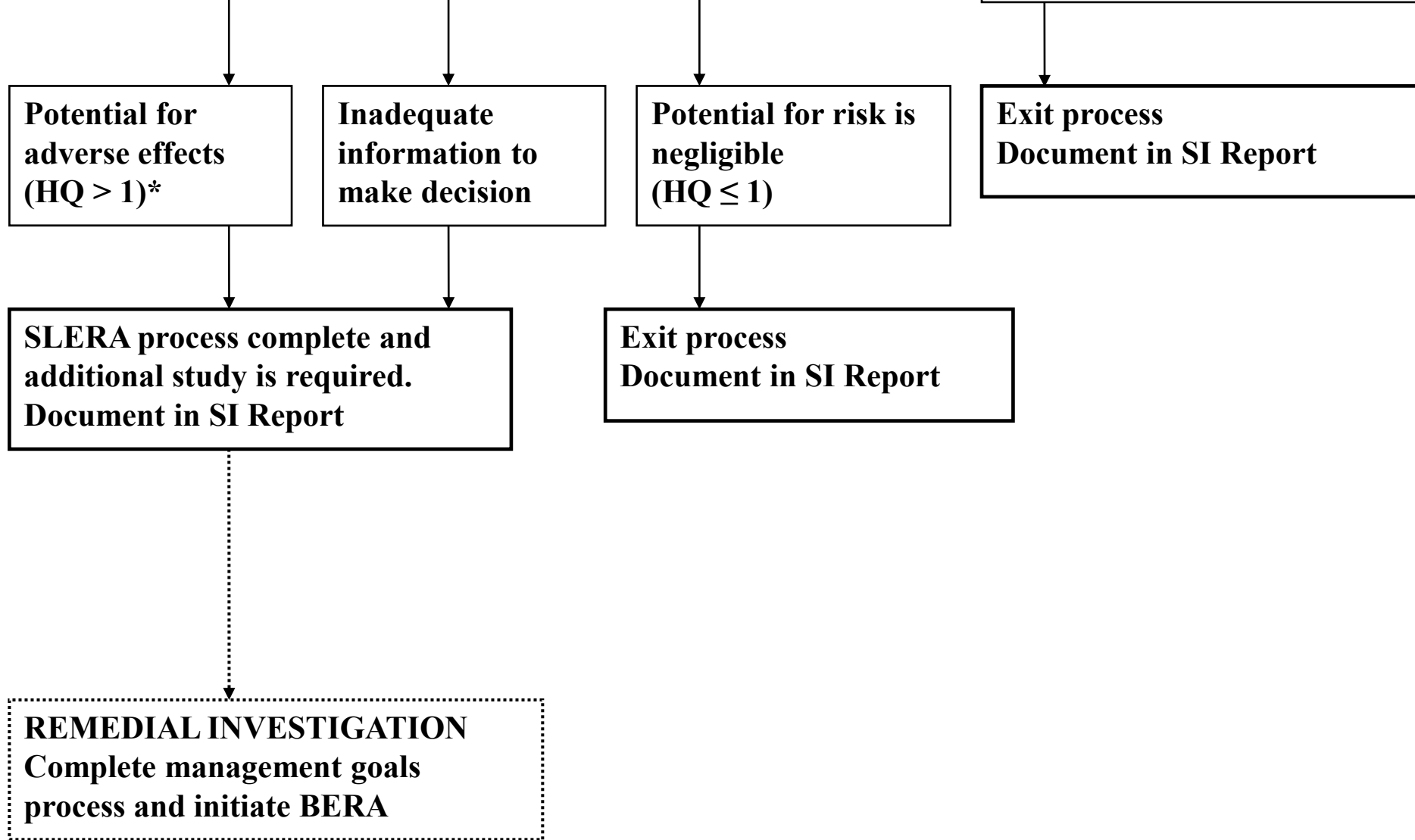
- Initiate Conceptual Site Model
- Select feeding guilds
- Select screening benchmarks
- Sampling and analysis

Potential for Risk = exposure/toxicity

Value over 1 does not indicate absolute problem; evaluate significance







**\* Note that an HQ above one is not reviewed to evaluate the significance of the exceedance of the benchmark and whether or not additional study is required.**



## Finalization of the ERA

- Site is not managed for ecological purposes
  - No adverse impacts-document in report and exit ERA process
  - Adverse impacts: Document in report
    - Possible recovery?
    - MAY have a problem anyway
- *Prevent unreasonable effects to biota such as widespread lethal impacts”*



## Finalization of the ERA

Site is ecologically important

- Potential for adverse effects or inadequate information to make decision
  - Further study necessary in an RI
- Potential for risk is negligible
  - Document in report and exit ERA process



## Closing....

85 to 90% of FUDS MMRP screening level ecological assessment shows ecological concerns negligible; further study in RI baseline assessment not required

### Two Avenues

- Site not important ecologically and do not require further screening
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## Closing....

- Successful implementation in FUDS Site Inspections
- Consider appropriately in RI (don't unnecessarily reskin the cat)
- Some RI sites won't have had a SLERA so will need to be done in the RI—SLERA is performed first and used to determine if BERA is necessary



## References

- *Screening-Level Risk Assessments for FUDS MMRP Site Inspections (USACE HTRW CX 2006)*
- *Technical Document for Ecological Risk Assessment: A Guide to Screening Level Ecological Risk Assessment (USA BTAG 2005a)*
- *Technical Document for Ecological Risk Assessment: Process for Developing Management Goals (USA BTAG 2005b)*





## Case Study



*Here Kitty, Kitty.....*



## Endangered Species

Critical Habitat South in drainage basin of onsite creek and just south of the site

State Dept of Wildlife Protection and U.S. Fish and Wildlife Service (USFWS) contacted

Site visit and land use review showed no threatened and endangered species likely to be present in the project area

No areas of the FUDS are managed for ecological purposes and do not meet criteria for Important Ecological Places (IEPs) or Sensitive Environments